REMARKS

Status of the Claims

Claims 137, 138, 143-155, and 158-160 are pending in the present application, and in the outstanding office action, all of the claims stand rejected. New claims 161 and 162 are added.

Inappropriate Examination of this Application

This office action is the fifth in this application. As the fifth office action, it is the *fifth time that all of the claims have been improperly rejected under 35 U.S.C. Section 101.* Tellingly, several office actions ago: the "Examiner suggested to applicant if the claims were apparatus claims and a machine is performing the steps such as the step of modifying a segmentation, the claims will be statutory," (see, January 31, 2006 Interview Summary) and the claims were rewritten to expressly follow the Examiner's suggestion. Indeed, claim 137 is the result of that Interview, and it has repeatedly been improperly rejected under 101.

How could all of these 101 rejections be so improper – quite simply, the Examiner has not read the claims (and it is quite apparent that the dependent claims have never been considered or examined).

For example, the *only basis for the 101 rejection* in the outstanding office action of all claims is that "The *generation of 'association values'* based on customer data sets and product data sets *has no practical application.*" The Examiner notes, as has been noted in every office action, that "The specification also states numerous marketing applications based on the original object sets such as 'targeting/personalization', 'policy/promotion design, 'policy/promotion response analysis; 'design of new products and or product bundles' and 'design of new product hierarchies.'" Indeed, previous office actions have expressly noted that these things are statutory. (See, December 8, 2005 Office Action at page 3.)

Contrary to the rejection, the FINAL STEP of independent method claim 158 is "offering products to customers based upon the outputted segmentation." The "generation of 'association values'" is not now and has never been the FINAL RESULT of any claim. That it is still the basis of the rejection of every claim in the application through five office actions is unacceptable.

Further examples of the inappropriateness of the examination in this case abound. Applicants have expressly warned the Examiners in this case about requirements against piecemeal prosecution, reminding the Examiners more than once:

> Section 2106 of the Manual of Patent Examining Procedure further provides:

>> It is essential that patent applicants obtain a prompt yet complete examination of their applications. Under the principles of compact prosecution, each claim should be reviewed for compliance with every statutory requirement for patentability in the initial review of the application, even if one or more claims are found to be deficient with respect to some statutory requirement. Thus, Office personnel should state all reasons and bases for rejecting claims in the first Office action. Deficiencies should be explained clearly, particularly when they serve as a basis for a rejection. Whenever practicable, Office personnel should indicate how rejections may be overcome and how problems may be resolved. A failure to follow this approach can lead to unnecessary delays in the prosecution of the application.

>> Prior to focusing on specific statutory requirements, Office personnel must begin examination by determining what, precisely, the applicant has invented and is seeking to patent, and how the claims relate to and define that invention. (As the courts have repeatedly reminded the Office: "The goal is to answer the question 'What did applicants invent?' " *In re Abele*, 684 F.2d 902, 907, 214 USPQ 682, 687. Accord, e.g., *Arrhythmia Research Tech. v. Corazonix Corp.*, 958 F.2d 1053, 1059, 22 USPQ2d 1033, 1038 (Fed. Cir. 1992).) Consequently, Office personnel will no longer begin examination by determining if a claim recites a "mathematical algorithm." Rather they will review the complete specification, including the detailed description of the invention, any specific embodiments that have been disclosed, the claims and any specific, substantial, and credible utilities that have been asserted for the invention.

> Applicants, while disagreeing with the Examiner's conclusion that the claims "recite [a] mathematical algorithm without [a] concrete and tangible result directed to a practical application," have amended the claims and reduced their number in an effort to clarify the scope of the claimed invention. No other rejections or objections have been made; in particular, no material prior art has been cited. [See, e.g., September 22, 2005 Amendment at

page 7.]

Despite these express warnings, the Examiner now rejects Claim 137 for the first time under Section 112. There is nothing new about claim 137 – other than the incorporation of the elements of dependent claims 139 to 142, which have been pending through several office actions (and which the Examiner has apparently never read).

In addition, this fifth office action applies prior art for the first time. Of course, as explained below, this prior art is irrelevant and does not even qualify as background for the claims. The fact that this rejection has never been made through all of the previous prosecution, including prosecution of the very claims that are now rejected, evidences the lack of merit in the rejection.

Still further, Applicants have expressly asked the Examiner to review dependent claims 159 and 160 for 101 purposes – this request has obviously fallen on deaf ears as the Examiner has never even considered the subject matter of Independent claim 158 (the recitations of claims 158, 159 and 160 are never mentioned in the 101 rejection):

> New method claims 158-160, which are substantially similar to previous method claims 115 et seq. with the addition of a step of offering products to customers, are likewise patentable. Applicant expressly requests that the Examiner review dependent claims 159 and 160 and not simply reject independent claim 158 without considering the subject matter of the dependent claims as has been done in previous office actions. [September 27, 2007 Amendment, p. 11.]

This piecemeal examination is unacceptable.

Rejection of Claims 137-157 Under 35 U.S.C. 101

The Examiner states that claims 137-138, 143-155, 158-160 are rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter.

Specifically, in the rejection the Examiner states that:

> The computer system must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson. 409 U.S. at 71-72, 175 USPQ at

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676-77. The invention is ineligible because it has <u>not been
limited to a substantial practical application</u>. *The
generation of 'association values' based on customer data
sets and product data sets has no practical application The
result has to be a practical application. Additionally, the
specification discloses preemption based on 0179 wherein
the specification states, 'There exists numerous marketing
applications by a SAM. (Single Association Model)* In
determining whether the claim is for a "practical
application," the focus is not on whether the steps taken
to achieve a particular result are useful, tangible and
concrete, but rather that the <u>final result</u> achieved by the
claimed invention is "useful, tangible and concrete." If
the claim is directed to a practical application of the §
101 judicial exception producing a result tied to the
physical world that does not preempt the judicial
exception, then the claim meets the statutory requirement
of 35 U.S.C. § 101.

    *There is no purpose for the 'association value'
result. The 'association value represents the 'strength or
adequacy' between the two data sets but there use for this
arbitrary value. The specification also states numerous
marketing applications based on the original object sets
such as 'targeting/personalization', 'policy/promotion
design', 'policy/promotion response analysis', 'design of
new products and or product bundles', and 'design of new
product hierarchies.'*

    The invention must be for a practical application and
either: 1) specify transforming (physical thing) or

    2) have the FINAL RESULT (not the steps) achieve or
produce a useful (specific, substantial, AND credible),
concrete (substantially repeatable! non-unpredictable), AND
tangible (real world non-abstract) result.

    A claim that is so broad that it reads on both
statutory and non-statutory subject matter, must be
amended.

    Claims that recites computer pseudo code that
represents a relationship between customers and products
are not statutory. The applicant's argument and
specification state the domain of the invention, of an
abstract nature due to the fact it has 'numerous
applications.' There must be a result that is a practical
application.

    There must be one invention per application.

This is the fifth office action in a row to make improper section 101 rejections in this

case. It is time for this inappropriate and improper rejection to be removed.

The Examiner is Wrong About Several Things:

First, the Examiner misquotes the application at paragraph 179 regarding Single Association Models. The quote provided in the office action is wrong and the Examiner has changed its meaning. The actual language that the Examiner incorrectly put into the office action is actually: "There exist numerous marketing applications *enabled* by a SAM, defined earlier." The Examiner leaves out the word "enabled" – and leaves out the reference to the definition in the specification of SAM – and thereby changes the meaning of this sentence. The is no "preemption." This statement reflects the fact that the SAM, defined in the specification to be an aspect of the present invention, enables numerous marketing applications that are further defined in the specification and are now claimed in independent claims 137 and 158.

The Examiner has misquoted the specification to change its meaning, then based the 101 rejection on this incorrect meaning. *This rejection should be immediately removed and should not be made final as the Examiner is simply wrong.*

Further, the only factual basis for the 101 rejection is that "association values" have "no practical application" and "no purpose." However, the Examiner also correctly notes that it is the "FINAL RESULT" of the claims that must achieve or produce a useful, concrete and tangible result. The "association values" are not the "FINAL RESULT" of any claim. Rather, the final result of independent claim 137 is "a computer display for outputting the segmentation" – where the segmentation is the result generated by a processor that optimizes the segmentation of customers and the products that they buy. "Association values" is never a final result.

The Examiner's position is even more wrong when considering independent method claim 158 – where the final step in the method is "*offering products to customers based upon the outputted segmentation.*"

The Examiner is wrong that "association values" are the "FINAL RESULT" of the claims. *This rejection should be immediately removed and should not be made final as the Examiner is simply wrong.*

The Pending Claims are Statutory:

The Examiner has already said that claim 137 is statutory: The "Examiner suggested to applicant if the claims were apparatus claims and a machine is performing the steps such as the

step of modifying a segmentation, the claims will be statutory," (see, January 31, 2006 Interview Summary). The claims were rewritten to expressly follow the Examiner's suggestion.

Claim 137 defines a "machine" that includes hardware structures, namely, an input device and a data processing system having a processor. Further, the processor executes a specific task so as to generate tangible results. More particularly, Claim 137 recites a system for determining a preferred segmentation for at least first and second sets of data. The system includes one or more input devices (see Figures 1 and 2, as well as page 39 of the application at lines 7 to 9) for inputting of the first and second sets of data, along with association values that can be used to relate one or more elements of the first data set with one or more elements of the second data set. A data processing system (page 39, lines 1 to 3, described also at page 28) includes a processor (Figures 1 and 2, page 39) is operable to modify the segmentation of each data set, calculate group association values based on the association values, and calculate an optimization metric based on the group association values. Where the desired level of optimization is not achieved in a first pass, the processor repeats these activities. Where the desired level of optimization is satisfied, the newly optimized segmentation for the first and second data sets is outputted.

Claim 137 also recites that one of the data sets represents customers, that one of the data sets represents products, and that the association values represent an association between the customers and products in the two data sets. Claim 137 further recites that the association value that represents an association between the customers and the products represents revenue. Finally, claim 137 includes the recitation that a display is provided to present these dollar values to the user. Thus, when the system of the claims displays the association values to a user of the system – *it is presenting dollar values exactly like* **State Street** *discussed below*.

Claim 137 expressly recites one specific exemplary practical application – associating customers with products according to revenue. ***This practical application is described in the specification at pages 17 to 18 and 30 to 34.*** In claim 137, the first and second data sets represent customers and products, and the association value represent revenues. In this embodiment, raw transaction data (a customer, the products purchased by the customer, and money paid by the customer for the products) is input, and an optimized segmentation of customer and product groupings is output and displayed to a user, presumably a marketing

professional. Segmenting customers and products into groups based upon the optimization of revenue and/or profit is a practical application that marketing professionals would readily understand. In fact, *the Examiner has already noted that "marketing products" is a "useful area."* (See, December 8, 2005 Office Action at page 3.)

Claim 158 defines a practical application that is useful, concrete and tangible by reciting the offering of products to customers. The Examiner has never addressed this claim. It is statutory.

Section 2106 of the Manual of Patent Examining Procedure provides:

> The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (*Brenner v. Manson*, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); *In re Ziegler*, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.

MPEP 2106(IV)(C)(2)((2)) further states:

> …USPTO personnel shall review the claim to determine it produces a useful, tangible, and concrete result. In making this determination, the focus is not on whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather on whether the final result achieved by the claimed invention is "useful, tangible, and concrete."

The present rejection, in which the Examiner ignores the tangible results provided, fails this test. Following the guidelines enumerated in this section of the MPEP, the result is concrete as it is predictable and repeatable (MPEP 2106(IV)(C)(2)((2))(c)). Each time the claimed invention is used, it will produce customer and product data sets that are ordered into an optimized segmentation according to revenue generation and output that segmentation to display for a marketing professional. The result is tangible as it is a real world result (MPEP

2106(IV)(C)(2)((2))(b)). The result is also useful in that the outputs are specific, substantial, and credible (MPEP 2106(IV)(C)(2)((2))(a)).

Not only do the claims recite statutory subject matter under the Patent Office guidelines, but they also comport with the case law.

The Court of Appeals for the Federal Circuit (CAFC) has held that a claim directed to a machine formed from a combination of related elements that provides "a useful, concrete and tangible result" is statutory subject matter under §101. *Alappat v. Averill*, 33 F.3d 1526, 1544 (Fed. Cir. 1994). For example, in *Alappat*, the Court held that a claim directed to a machine that converts data representing sample magnitudes of an input waveform, via mathematical operations, into pixel illumination intensity data is statutory subject matter under §101. The Court reasoned that the claim was directed to a machine, which is one of the four categories of patentable subject matter, and hence it appeared on its face to be directed to §101 subject matter. Further, the claim did not recite a "disembodied mathematical concept which may be characterized as an "abstract idea," but rather a specific machine to produce a useful, concrete, and tangible result." Id at 1544. In particular, the Court noted that the pixel illumination data could be used to produce a smooth waveform display. Id. The Court emphasized that "[T]he fact that the four claimed means elements function to transform one set of data to another through what may be viewed as a series of mathematical calculations does not alone justify a holding that the claim as a whole is directed to nonstatutory subject matter." Id.

In *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, the CAFC further reiterated that claims directed to transformation of data into useful, tangible results are statutory subject matter under §101. More specifically, the Court held that "the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces "a useful, concrete and tangible result"— a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades." *State St. Bank & Trust Co.*,149 F.3d 1368, 1373 (Fed. Cir. 1998).

Similar to *Alappat* and *State Street Bank*, Applicants' claimed invention is directed to a

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"machine," in the form of a system comprising an input device and a data processing system including a processor and computer display, that is on its face statutory subject matter. More specifically, similar to *Alappat* and *State Street*, claim 137 recites specific structures (a data processing system having a processor, as compared to processing means in the form of arithmetic logic circuits in *Alappat* and *State Street*) that transform one set of data (first and second data sets and association values in claim 137, sample magnitudes of an input waveform in *Alappat*, and discrete dollar amounts in *State Street*) into a tangible and useful output (optimized segmentations of the first and second data sets in claim 137, pixel illumination intensity data in *Alappat*, and final share price in *State Street*).

Perhaps the most relevant case law is *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 50 USPQ2d 1447 (Fed. Cir. 1999). There, the Federal Circuit held that methods implemented in software on a computer system that accepted input data, manipulated that data into a new form, and outputted that new form for use in a practical application (such as the marketing of products to customers as the Examiner has admitted in this case) constituted patentable subject matter.

When the system of the claims displays the revenue-based association values to a user of the system – *it is presenting dollar values exactly like* **State Street,** including the recitation that a display is provided to present these dollar values to the user.

Rejection of Claims 137 and 158 Under 35 U.S.C. 112

The Examiner states that claims 137 and 158 are rejected under 35 U.S.C. 112 as failing to comply with the written description requirement. Specifically, the Examiner states that:

> The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. These claims state 'revenue' is indicated by the association between the 'customer data' and the 'product data'. This is not supported by the specification. The word 'revenue' is not mentioned within the specification. . . .
>
> The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that

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> the inventor(s), at the time the application was filed, had
> possession of the claimed invention. These claims state
> there are 'association values' based on the 'first data
> set' and the 'second data set.' This is not disclosed
> within the specification. . . .
>
>   [T]he specification, while being enabling for 'data
> sets', does not reasonably provide enablement for 'modify a
> segmentation of each of the first and second data sets.'
> The specification does not enable any person skilled in the
> art to which it pertains, or with which it is most nearly
> connected, to 'modify ,a segmentation of each of the first
> and second data sets' the invention commensurate in scope
> with these claims. This is only mentioned in 1{0241 without
> any description how this is accomplished.
>
>   These claims must be amended or withdrawn from
> consideration.

The Examiner provides three incorrect bases for the 112 rejections. Applicants address each incorrect basis below.

Improper in ipsis verbis Rejection on "Revenue"

First, the Examiner makes an inappropriate and incorrect in *ipsis verbis* written description rejection based on the word "revenue." *See, e.g., Vas-Cath*, 935 F.2d at 1563, 19 USPQ2d at 1116; *Martin v. Johnson*, 454 F.2d 746, 751, 172 USPQ 391, 395 (CCPA 1972) (stating "the description need not be in *ipsis verbis* [i.e., "in the same words"] to be sufficient"); MPEP 2163. It is clear that this rejection is based only on the Examiner's single word searching of the application. That the Examiner's approach is improper is black letter law.

In making this rejection, the Examiner has plainly ignored the fact that claims using the word "revenue" have been pending through several office actions and were specifically highlighted in Applicants' comments, for example, at page 11 of Applicants' May 4, 2006 Response to Final Office Action Filed with RCE, where the Applicants point the Examiner to pages 17 to 18, and 30 to 34 of the application as filed.

Indeed, in that previous Response, Applicants specifically pointed to pages 17 to 18 of the application as filed (which describes the use of customer and product data sets as the "object sets"), where "sales data" is used to populate the data sets – by any common definition: sales = revenue. Further, the text at pages 30 to 34 specifically describes using "purchase frequency" at known prices in the model (see, in particular, page 33). Again, by any definition, revenue =

purchase frequency X price. Applicants have further added two dependent claims to specifically recite "purchase frequency" in place of revenue. The claim recitation is supported in the specification.

The Remainder of the 112 Rejections are Incorrect by Definition

The Examiner objects to the term "modify a segmentation of each of the first and second data sets" as described only in paragraph 241; and to "association values" based on the "first data set" and the "second data set." All of these terms are supported extensively throughtout the specification – in fact, one might say that they are the point of the application.

The application provides that "an object set as herein used is the most general and broadest type of set." The application goes on to state:

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One aspect of object sets is that they may be comprised of
elements which are themselves object sets. In some
embodiments, the present application discloses and claims
methods for optimally segmenting an object super set into a
plurality of object subsets. The segmentation is considered
to have a granularity or "resolution" which can range from
the coarsest resolution of a single-element object set to
the finest resolution, where a substantially limitless
division of objects in the object set can be implemented.
Increasing the number of elements in an object set by
further subdivision and/or redistribution of its elements
is referred to herein as "refinement." Refinement increases
the cardinality (or number of elements) of the object set.
. . .

The process of aggregating and/or refining elements of an
original object set is herein referred to as "modification"
of the original object set. Thus a "modified object set"
comprises elements that correspond to the elements of an
original object set through either refinement, aggregation
or both. For example one original element or object, A, may
be first split into two elements, A1 and A2 and then A1 may
be further split into A1x and A1y in a refinement
operation, while A2 can be combined with a different
original element, B, in an aggregation operation. Note that
in some cases a mere permutation of the original object set
is accomplished or only a resorting or ordering is
performed on the original object set. Additionally, some
elements of an original object set may be altered while
others are left unchanged. The present application uses the
term "drilling" in some instances to signify moving to a
more detailed finer resolution model or level of
granularity, while using the term "aggregating" to signify
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moving up to a coarser level of granularity in the
modeling.

Modifications of object sets include aggregation,
refinement, or ordering of the sets. Elements of a modified
object set are sometimes called segments. Discussed below
are some specific aspects of various types of
modifications, which are generally carried out using a
modifier that can be implemented e.g. in a data processing
system using software. [para. 47-51]
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Thus, by definition, any time one aggregates or refines object sets or subsets, one is modifying a segmentation. This is supported throughout the application.

Further, the practical marketing applications that are presently claimed rely on the object sets being "data sets." The application states this clearly:

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Object sets may comprise categorical data sets. The term
"categorical data set" (CDS) is used herein to refer to an
object set whose elements share a common feature or
attribute, which can be used to categorize the data. Two
CDSs can be associated with one another as discussed
earlier. . . . [para. 67]

A group of consumers having some attributes and placed in a
first object set, for example in a categorical data set,
can be optimally matched to a corresponding group of
available products, having some attributes and placed in a
second categorical data set, by associating the first and
second categorical data sets.  [para. 83]
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Categorical data sets are thus one type of object set and can be associated in the same way as object sets as described above. Consumers and products are just such categorical data sets and are associated in the same way and "modified" and segmented in the same way. See, para. 185 (modifying object sets comprising customer data sets and product data sets that result in customer segments and product segments). The final segmentation is the result of the optimization process described in the application and included in the claims.

These claims are properly supported.

Rejection of Claims 137-138, 143-155, 158-160 Under 35 USC §103

Claims 137-138, 143-155, and 158-160 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,909,681 (Passera et al.) in view of Cragun et al. (U.S. Patent No. 5,971,277). Specifically, the Examiner states:

Claim 137

        Passera teaches (A) one or more input devices for
    inputting the first and second data sets (Passera, Cl :22-
    61; 'Input devices' of Applicant is equivalent to 'input
    nodes' of Passera.) and association values representing an
    association between one or more elements of the first data
    set and one or more elements of the second data set
    (Passera, Cl :22-61; 'Association values' of applicant are
    the results of the 'output nodes' of Passera.), wherein:
    the first data set represents customers. (Passera, Cl :22-
    61; 'First data set represents ,customers' of ,applicant is
    equivalent to 'data bases containing records of millions of
    customers' of Passera.)
        Passera does not teach the second data set represents
    products.
        Cragun teaches the second data set represents
    products. (Cragun, C3:23-35; 'Second data set represents
    products' of applicant is equivalent to 'product database'
    of Cragun.) It would have been obvious to a person having
    ordinary skill in the art at the time of applicant's
    invention to modify the teachings of Passera by having a
    second data set of products as taught by Cragun to have the
    second data set represents products.
        For the purpose of using both data sets to find
    correlations between customers and products for target
    marketing and increased profit.
        Passera teaches the association values represent an
    association between customers of the first data set and
    products of the second data set and is indicative of
    revenue associated with the customers and the products
    (Passera, Cl :22-61; 'Association values' which are
    indicative of 'revenue' of applicant is illustrated by
    looking for data patterns indicating which of the customers
    are sufficiently likely to buy a given product ... ' of
    Passera.); (B) a data processing system having a processor
    operable to: (i) modify a segmentation of each of the first
    and second data sets to produce first and second modified
    data sets having different groups than the first and second
    data sets (Passera, Cl :22-61; The modification of the
    first and second data sets which are different than the
    original data sets occurs at the hidden layer network which

is comprised by hidden layer nodes of Passera.); (ii) calculate group association values based on the association values, the group association values indicating an association between groups of the first modified data set and groups of the second modified data set (Passera, C6:21-29; The calculation of the 'group association values' of applicant is equivalent to the output of the 'output node' of the 'non-terminal node' of Passera.); (iii) calculate a metric based on the group association values, the metric representing a measure of an optimization of the segmentations (Passera, C7:51-65; 'Calculating a metric based on the group association values' of applicant is the comparison between the 'generated value produced at the output node' to the 'values supplied to the inputs' of Passera. 'Metric' of applicant is equivalent to 'weight' of Passera.); (iv) modify the segmentation of at least one of the first and second data sets and recalculating group association values and the metric (Passera, C7:51-65; 'Modify the segmentation' of applicant is equivalent to ,'modifies the weights' of Passera.); (v) satisfy an optimization criteria by repeating (S)(iv), until the metric reaches a desired value (Passera, C7:65 through C8:4; 'Satisfy an optimization' of applicant is disclosed by training values for the output drops below a given level' of Passera.); and (vi) output the segmentation for the first and second data sets. (Passera, C7:51-65; 'Outputting the segmentation' of applicant is equivalent to 'network's output' of Passera.)

    Passera does not teach (C) a ,computer display for outputting the segmentation, wherein outputting the segmentation includes displaying a representation of the group association values on the computer display.

    Cragun teaches (C) a computer display for outputting the segmentation, wherein outputting the segmentation includes displaying a representation of the group association values on the computer display. (Cragun, C4:26-36; 'Computer display' of applicant is equivalent to 'display screen: of Cragun.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Passera by outputting the results, as taught by Cragun to have a computer display for outputting the segmentation, wherein outputting the segmentation includes displaying a representation of the group association values on the computer display.

    For the purpose of seeing the results of associated values and employing them for revenue.

Claim 158

    Passera teaches (A) inputting the first and second

data sets and association values representing an
association between one or more elements of the first data
set and one or more elements of the second data set
(Passera, C1 :22-61; 'Inputting the first and second data
sets" of applicant occurs at the 'input nodes' of
Passera.), wherein: the first data set represents
customers. (Passera, C1 :22-61; 'First data set represents
customers' of applicant is equivalent to 'data bases
containing records of millions of customers' of Passera.)

Passera does not teach the second data set represents
products.

Cragun teaches the second data set represents
products. (Cragun, C3:23-35; "Second data set represents
products' of applicant is equivalent to 'product database'
of Cragun.) It would have been obvious to a person having
ordinary skill in the art at the time of applicant's
invention to modify the teachings of Passera by having a
second database of products as taught by Cragun to have the
second data set represents products.

For the purpose of determining a relationship between
customers and products.

Passera teaches the association values represent an
association between customers of the first data set and
products of the second data set and is indicative of
revenue associated with the customers and the products
(Passera, C1 :22-61; 'Association values' which are
indicative of 'revenue' of applicant is illustrated by ,
... looking for data patterns indicating which of those
customers are sufficiently likely to buy a given product
... ' of Passera.); (8) modifying, a segmentation of each
of the first and second data sets to produce first and
second modified data sets having different groups than the
first and second data sets (Passera, C1 :22-61; The
modification of the first and second data sets which are
different than the original data sets occurs at the hidden
layer network which is comprised by hidden layer nodes of
Passera.); (C) calculating group association values based
on the association values, the group association values
indicating an association between groups of the first
modified data set and groups of the second modified data
set (Passera, C6:21-29; The calculation of the 'group
association values' of applicant is equivalent to the
output-of the 'output node' of the 'non-terminal node' of
Passera.); (O) calculating a metric based on the group
association values, the metric representing a measure of an
optimization of the segmentations (Passera C7:51-65;
'Calculating a metric based On the group association
values' of applicant is the comparison between the
'generated value produced at the output node' to the
'values supplied to the inputs' of Passera. 'Metric' of

applicant is equivalent to 'weight' of Passera.); (E)
iteratively modifying the segmentation of at least one of
the first and second data sets and recalculating group
association values (Passera, C7:51-65; 'Modifying the
segmentation' of applicant is equivalent to 'modifies the
weights' of Passera.) and the metric until the metric
represents an optimization level that equals or exceeds the
desired level of optimization. (Passera, C7:65 through
C8:4; 'Satisfy an optimization' of applicant is disclosed
by 'training values for the output drops below a given
level' of Passera.)

     Passera does not teach (F) outputting the segmentation
for the first and second data sets.

     Cragun teaches (F) outputting the segmentation for the
first and second data sets. (Cragun, C4:26-36; 'Outputting
the segmentation' of applicant is accomplished by a
'display screen' of Cragun.) It would have been obvious to
a person having ordinary skill in the art at the time of
applicant's invention to modify the teachings of Passera by
displaying the first and second data segmentation sets as
taught by Cragun to output the segmentation for the first
and second data sets.

     For the purpose of seeing the results of associated
values and employing them for revenue.

     Passera teaches (G) offering products to customers
based upon the outputted segmentation. (Passera, C1 :22-61;
'Offering products to customers' of applicant is equivalent
to 'direct marketing campaign' of Passera.)

Passera, the primary reference relied upon by the Examiner to make the obviousness

rejection, is wholly irrelevant to the claimed invention. The Examiner relies primarily on the

BACKGROUND section of Passera, which states that data mining through customer

databases is difficult because it requires large amounts of computing power. The invention

of Passera involved associating data with separate processors to allow for faster processing.

This has nothing to do with the claimed invention.

Indeed, the Examiner relies solely on the fact that the background of Passera

discloses that customer data exists and that people want to mine it as the only teaching for

optimizing customer and product segments as claimed. The *prima facie* obviousness case

fails flatly for this reason alone.

The remaining portions of Passera cited by the Examiner are likewise wholly

irrelevant to the claimed invention. The portion cited at column 6 merely introduces a well

known neural tree network that is irrelevant to the claimed invention and the portion cited at column 7 is merely a schematic for training the neural network. Optimizing the training of a neural network so that it can allow multiple processors to crunch data more efficiently has nothing to do with the claimed invention. The Examiner states without support that the "'Association values' of applicant are the results of the 'output nodes' of Passera." The output nodes of Passera are used to train the nodes of a neural network as to how to process data more efficiently. There is no relevance to the association values as claimed

Cragun, the secondary reference cited by the Examiner, is likewise wholly irrelevant. Cragun provides a computer with a scanner that allows a consumer to scan a code from a product, then pull information about that product to display to the consumer. [See, e.g., Col. 2, lines 16-24.] It fills in none of the missing teachings described above (though Applicants admit that the Examiner is correct that Cragun has a display and references products – the only things that Cragun is cited for).

Accordingly, the cited references, alone or combined, teach nothing having anything to do with the claimed invention.

CONCLUSION

Applicants file herewith a written request for interview with the Examiner and the Examiner's Supervisor.

In the event that a petition for an extension of time is required to be submitted at this time, Applicant hereby petitions under 37 CFR 1.136(a) for an extension of time for as many months as are required to ensure that the above-identified application does not become abandoned.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 141449, under Order No. 106221-4.

Dated: May 28, 2008   Respectfully submitted,

By _____

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